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10/520,867

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Arjan Van Den Berg

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PHILIPS ELECTRONICS NORTH AMERICA CORPORATION

INTELLECTUAL PROPERTY & STANDARDS

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SAN JOSE, CA 95131

EXAMINER

VU, JIMMY T

ART UNIT

PAPER NUMBER

2821

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|-----------|---------------|
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3 MONTHS

02/28/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/520,867

Applicant(s)

VAN DEN BERG, ARJAN

Examiner

Jimmy T. Vu

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5 and 6 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 7 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 5 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Waki (U.S. Patent number 5,233,273).

Regarding claim 1, Waki discloses ballast circuit for operating a gas discharge lamp (15) (Figs. 2-9), comprising:

a half-bridge DC-AC converter (20) (Figs. 2-9, col. 3, lines 32-33) having a voltage controlled oscillator (21) (Figs. 2-9, col. 3, line 35) for alternately switching two switches (30, 31) (Figs. 2-9, col. 4, lines 15-16) of said half-bridge, said oscillator (21) having an input with a control voltage (Fig. 2 shown the voltage through oscillator (21) is controlled by controller (18)) which determines an operating frequency of said half-bridge;

a resonance circuit (12, 13, 14) (Figs. 1-5, col. 7, lines 65-67) connected to said half-bridge for feeding the lamp; and

a feedback circuit (detector (17) and controller (18) in Fig. 2, col. 5, lines 15-30) (the detector (17) detects a change of the current flowing in the resonance circuit and sends signal to the controller (18), and then the controller (18) controls/adjusts the

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operating frequency of the half bridge) connected at a first end to said resonance circuit for adjusting the operating frequency of said half-bridge,

characterized in that

the other end of said feedback circuit (17 and 18) is connected to the input of said voltage controlled oscillator (21) (Figs. 2-9) and desired such that during at least a substantial part of the start-up period of the lamp an equilibrium exists wherein the half-bridge frequency is at least nearly equal to the resonance frequency and the half-bridge voltage is forced to operate at least nearly in phase with the half-bridge current (Waki shown the identical structure [the connections of the feedback circuit to the oscillator, resonance circuit and the half bridge] to the structure as claimed; therefore, it would have the same functional operations).

Regarding claim 2, Waki discloses ballast circuit characterized in that the first end of the feedback circuit (17 and 18) is connected to the serial connection between the two switches of the half-bridge (Figs. 2-9).

Regarding claim 5, Waki discloses lamp driver for operating a gas discharge lamp (15) (Figs. 2-9), comprising:

a half-bridge DC-AC converter (20) (Figs. 2-9, col. 3, lines 32-33) having a voltage controlled oscillator (21) (Figs. 2-9, col. 3, line 35) for alternately switching two switches (30, 31) (Figs. 2-9, col. 4, lines 15-16) of said half-bridge, said oscillator (21) having an input with a control voltage (Fig. 2 shown the voltage through oscillator (21) is controlled by controller (18)) which determines an operating frequency of said half-bridge;

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a resonance circuit (12, 13, 14) (Figs. 1-5, col. 7, lines 65-67) connected to said half-bridge for feeding the lamp; and

a feedback circuit (detector (17) and controller (18) in Fig. 2, col. 5, lines 15-30) (the detector (17) detects a change of the current flowing in the resonance circuit and sends signal to the controller (18), and then the controller (18) controls/adjusts the operating frequency of the half bridge) connected at a first end to said resonance circuit for adjusting the operating frequency of said half-bridge,

characterized in that

the other end of said feedback circuit (17 and 18) is connected to the input of said voltage controlled oscillator (21) (Figs. 2-9) and desired such that during at least a substantial part of the start-up period of the lamp an equilibrium exists wherein the half-bridge frequency is at least nearly equal to the resonance frequency and the half-bridge voltage is forced to operate at least nearly in phase with the half-bridge current (Waki shown the identical structure [the connections of the feedback circuit to the oscillator, resonance circuit and the half bridge] to the structure as claimed; therefore, it would have the same functional operations).

Regarding claim 6, Waki discloses the lamp driver characterized in that the first end of the feedback circuit is connected to the serial connection between the two switches of the half-bridge (Figs. 2-9).

***Allowable Subject Matter***

3. Claims 3, 4, 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of the prior art teaches the ballast circuit characterized in that the oscillator input is further connected to the current supply and the capacitor, wherein the equilibrium is determined by the current supply loading the capacitor, and the feedback circuit at least partially unloading the capacitor each half-bridge switching cycle.

***Response to Arguments***

4. Applicant's arguments with respect to claim 1-8 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shone et al is cited.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy T Vu whose telephone number is (571) 272-1832. The examiner can normally be reached on M - F: 9 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on (571) 272-1662. The fax phone

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numbers for the organization where this application or proceeding is assigned are (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2800.

Jimmy Vu

February 13, 2007

*Douglas W. Owens 2/26/07*

DOUGLAS W. OWENS  
SUPERVISORY PATENT EXAMINER